Installation and Operation Instructions
360º LED Beacon

ECCO's 7945 & 7950 series LED beacons are designed to meet SAE J845 Class II specifications (Amber and Clear only). The 7945 & 7950 features 12-48 VDC operation, 3 bolt mounting flange, integrated 1" pipe mount, & optional vacuum-magnet mount.

IMPORTANT! Read all instructions before installing and using. Installer: This manual must be delivered to the end user.

WARNING!

Failure to install or use this product according to manufacturers recommendations may result in property damage, serious injury, and/or death to those you are seeking to protect!

Do not install and/or operate this safety product unless you have read and understand the safety information contained

1. **Proper installation combined with operator training in the use, care, and maintenance of emergency warning devices are essential to ensure the safety of you and those you are seeking to protect.**
2. **Exercise caution when working with live electrical connections.**
3. **This product must be properly grounded. Inadequate grounding and/or shorting of electrical connections can cause high current arcing, which can cause personal injury and/or severe vehicle damage, including fire.**
4. **Proper placement and installation are vital to the performance of this warning device. Install this product so that output performance of the system is maximized and the controls are placed within convenient reach of the operator so that s/he can operate the system without losing eye contact with the roadway.**
5. **Do not install this product or route any wires in the deployment area of an air bag. Equipment mounted or located in an air bag deployment area may reduce the effectiveness of the air bag or become a projectile that could cause serious personal injury or death. Refer to the vehicle owner's manual for the air bag deployment area. It is the responsibility of the user/operator to determine a suitable mounting location ensuring the safety of all passengers inside the vehicle particularly avoiding areas of potential head impact.**
6. **It is the responsibility of the vehicle operator to ensure during use that all features of this product work correctly. In use, the vehicle operator should ensure the projection of the warning signal is not blocked by vehicle components (i.e., open trunks or compartment doors), people, vehicles or other obstructions.**
7. **The use of this or any other warning device does not ensure all drivers can or will observe or react to a warning signal. Never take the right-of-way for granted. It is your responsibility to be sure you can proceed safely before entering an intersection, driving against traffic, responding at a high rate of speed, or walking on or around traffic lanes.**
8. **This equipment is intended for use by authorized personnel only. The user is responsible for understanding and obeying all laws regarding warning signal devices. Therefore, the user should check all applicable city, state, and federal laws and regulations. The manufacturer assumes no liability for any loss resulting from the use of this warning device.**

Specifications:

Size:	7945: 6.0" dia. x 4.8" high 7950: 6.0" dia. x 6.8" high
Weight:	approx. 3 lbs.
Input Voltage:	12-48 VDC system
Input Current:	1.3A @ 12.8 VDC Maximum power consumption: 16.0 Watts
Temp. Range:	-30°C to +50°C

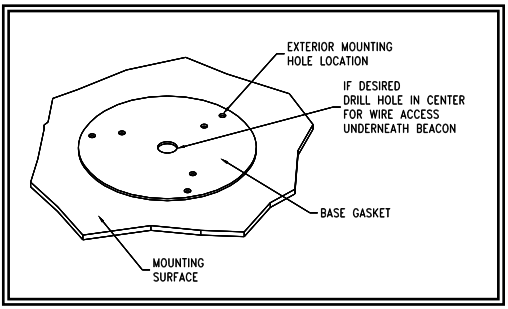

Figure 1

Installation & Mounting:

Important! This unit is a safety device, and it must be connected to its own seperate, fused power point to assure its continued operation should any other electrical accessory fail.

Carefully remove the beacon and place it on a flat surface. Examine the unit for transit damage, and locate all parts. If damage is found, or parts are missing, contact the transit company or ECCO. Do not use damaged or broken parts.

Caution: When drilling into any vehicle surface, make sure that the area is free from any electrical wires, fuel lines, vehicle upholstery, etc. that could be damaged.

Permanent Mounting:

Select the desired location on a flat surface for the LED beacon to be mounted. The visibility of the flash and ease of wiring access should be taken into consideration in the selection of the mounting location.

1. Using the base gasket as a template, mark the three mounting hole locations (see Figure 1).
2. Drill the holes using a 7/32" drill size.
3. A fourth hole may be drilled for wire access as shown in Figure 1, or the wires may be routed through the slot in the base for external access.
4. Connect the power wires as shown in the wiring section (see Figure 3).
5. Mount the beacon with #10 hardware.

Pipe Mounting:

The 7945 & 7950 series base comes with 1" NPT threads for pipe mounting.

Temporary Mounting, Vacuum-Magnet Mount:

The 7945 & 7950 series beacons are available as vacuum-magnet mount (7945X-VM & 7950X-VM) units. The Vacuum-Magnet Mount feature includes a suction cup on the bottom of the beacon, with a magnet inside of the suction cup, for a secure, temporary mount. The beacon should be placed in the center of the roof where the least amount of curvature occurs. Before installing, make sure there is no debris on the bottom of the beacon or on the roof of the vehicle, which could reduce the holding power of the suction cup and magnet. Place and remove the beacon without sliding to avoid scratching the paint on the vehicle. After placement, the beacon should adhere firmly to the surface. If the unit slides or moves easily, a proper installation has not been obtained. To release the vacuum, lift the tab to release the airlock (see Figure 2). To protect the Vacuum-Magnet Mount assembly, return beacon to the box when not in use. **Do not attempt to attach the beacon to an ice-covered surface.**

WARNING!

Maximum recommended vehicle speed for safe operation using the Vacuum Mount model is 65 mph (104 km/h), when fitted to the center of a vehicle roof of steel construction. Higher speeds could cause the mount to fail, resulting in the beacon flying off of the vehicle, which could cause damage to other vehicles, and injury or death to the passengers. The vacuum-magnet mount is not intended as a permanent mounting for the beacon. The vacuum-magnet mount unit must be mounted on a flat smooth magnetic surface (i.e. no fiberglass, ribbed style roofs, etc.). Insure that the magnet is kept clean.

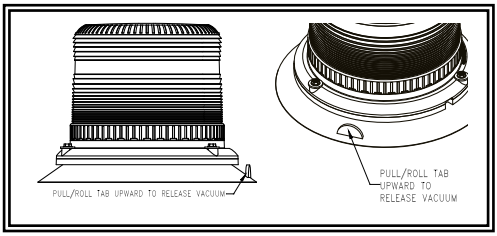

Figure 2

WARNING!

Failure to follow these instructions can result in fire or injury from excessive heat build up.

Operator is responsible for ensuring cigarette adapter fits correctly into cigarette/auxillary outlet used.
For proper operation, verify cigarette/auxillary outlet circuit is rated to supply, a minimum of 10 amps. (See specifications section for rated current in amperes).
Do not exceed the current rating for the cigarette lighter power outlet recommended by vehicle manufacturer.
Keep cigarette lighter adapter, and outlet, clean and free of debris.
Do not use the cigarette lighter adapter when wet.
Insert cigarette lighter adapter fully into the outlet for proper connection.
Grasp cigarette lighter adapter, NOT cord, to remove from outlet.

Remove cigarette lighter adapter completely from outlet when light is not in use.

Wiring Instructions:

Notes:

1. Larger wires and tight connections will provide longer service life for components. For high current wires it is highly recommended that terminal blocks or soldered connections be used with shrink tubing to protect the connections. Do not use insulation displacement connectors (e.g., 3M Scotchlock type connectors).
2. Route wiring using grommets and sealant when passing through compartment walls. Minimize the number of splices to reduce voltage drop. High ambient temperatures (e.g., under-hood) will significantly reduce the current carrying capacity of wires, fuses, and circuit breakers. All wiring should conform to the minimum wire size and other recommendations of the manufacturer and be protected from moving parts and hot surfaces. Looms, grommets, cable ties, and similar installation hardware should be used to anchor and protect all wiring.
3. Fuses or circuit breakers should be located as close to the power takeoff points as possible and properly sized to protect the wiring and devices.
4. Particular attention should be paid to the location and method of making electrical connections and splices to protect these points from corrosion and loss of conductivity.
5. Ground termination should only be made to substantial chassis components, preferably directly to the vehicle battery.
6. Circuit breakers are very sensitive to high temperatures and will “false trip” when mounted in hot environments or operated close to their capacity.

Important: Disable power before wiring the beacon.

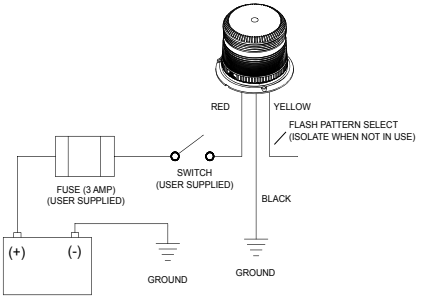

Figure 3

Maintenance:

This LED beacon has been designed for trouble free operation. There are no periodic maintenance needs for this model.

Troubleshooting:

1. Most beacon failures, including intermittent or erratic operation as well as failure of operation can be traced to wiring or battery problems. Check all wiring, connections, fuse, switch, and battery voltage to insure that the correct voltage is reaching the beacon.

2. If this has not remedied the problem, return product to your local dealer for warranty replacement, or call ECCO Customer Service for assistance (800) 635-5900.

Note: Operating the vehicle without the lens installed on this product will result in damage that will not be covered under warranty.

Flash Pattern Selection:

Flash patterns can be selected by touching the yellow wire to the red power wire for less than a second. Contacting the yellow and red wires for longer than a second toggles to the preceding flash pattern.

Flash Patterns:

Photometric Summary Table

Sequence	Description	FPM	AMBER	BLUE	WHITE	RED
1	Single	65	CLASS 2	CLASS 3	CLASS 2	-
2	Single	120	CLASS 2	CLASS 3	CLASS 2	-
3	Double	80	CLASS 2	CLASS 3	CLASS 2	-
4	Double	120	CLASS 2	CLASS 3	CLASS 2	-
5	Triple	75	CLASS 2	CLASS 3	CLASS 2	-
6	Quad	75	CLASS 2	CLASS 3	CLASS 2	-
7	Quad	120	CLASS 2	CLASS 3	CLASS 2	-
8	Quint/Hold	75	CLASS 2	CLASS 3	CLASS 2	-
9	Pulse8	75	CLASS 2	CLASS 3	CLASS 2	-
10	Random	N/A	N/A	N/A	N/A	N/A
11	Steady On	N/A	N/A	N/A	N/A	N/A

Replacement Parts & Accessories:

Description	Part Number
Lens, 4”	R6050LX*
Lens, 6”	R6070LX*
Magnet Mount Kit	A6600MK
Vacuum-Magnet Mount Kit	A6000VMK
Self Leveling Bracket	A6600SLB
Branch Guard	A6050BG
Branch Guard	A6070BG
Dust Cover	A6050DC
Dust Cover	A6070DC
Vibration Dampening Kit	A6600VDK
Black Top Decal	A6501BT

*where (X) indicates color:
A = Amber B= Blue C = Clear G= Green R= Red

Learn more about emergency and warning lighting on our website.